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**BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES**

Application Number: 09/587,092
Filing Date: May 31, 2000
Appellant(s): HOFFMAN ET AL.

Jonathan O. Scott
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed 7/28/08 appealing from the Office action
mailed 11/05/07.

(1) Real Party in Interest

A statement identifying by name the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3) Status of Claims

The statement of the status of claims contained in the brief is correct.

(4) Status of Amendments After Final

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

(5) Summary of Claimed Subject Matter

The summary of claimed subject matter contained in the brief is correct.

(6) Grounds of Rejection to be Reviewed on Appeal

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

(7) Claims Appendix

The copy of the appealed claims contained in the Appendix to the brief is correct.

(8) Evidence Relied Upon

Rankl, W & Effing, W. Smartcard Handbook. John Wiley & Sons. West Sussex, England. 1997. pp. 21 - 23, 327 -353 and 363 - 468.

Manterfield, Richard. Telecommunications Signaling. Institution of Electrical Engineers.

London, England. January 1, 1999. p. 141.

Applicant's Arguments filed 10/23/06, p. 6.

Applicant's Arguments filed 08/09/07, p. 9.

(9) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains.

Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 1, 4 – 5, 7 - 9, 11 - 12, 14 - 15 and 23 – 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rankl (Rankl, W. & Effing, W. *Smartcard Handbook*. John Wiley & Sons. West Sussex, England. 1997. pp. 21 – 23, 327 – 353 and 363 - 368), Manterfield (Manterfield, Richard. *Telecommunications Signalling*. Institution of Electrical Engineers. London, England. January 1, 1999. p. 141) and Admissions (applicant's arguments filed 10/23/06, p. 9; applicant's arguments filed 08/09/07, p. 9).

Regarding Claim 1, Rankl discloses a smart card loading system (Mondex system) for loading value over a telecommunications network (telephone system) onto a smart card (Mondex smartcard) said smart card loading system (see pp. 342 - 344) comprising:

- a smart card (Mondex smartcard). (see pp. 342 - 344):
- a telephone handset (telephone with a built-in card reader) in communication with said telecommunications network (telephone system). (see p. 344);
- a smart card reader (telephone with a built-in card reader) for communicating with a said smart card when said smart is inserted in said handset. (see p. 344);
- said handset being arranged to generate a request message to load said value onto said smart card and to receive a response message to load said value onto said smart card. (During value transfer phase, Smart Card 2 informs Smart Card 1 of the requested sum. The requested amount is debited on Smart Card 1 and is sent to Smart Card 2). (see p. 346);

- an input interface (see wallet, figure 12.16, p. 344) for indicating a value to be loaded onto said smart card (see p. 344);
- said handset being arranged to generate a message request to load said value (sum) onto said smart card ("value transfer" phase requesting sum) and to receive a response message (transmission of funds and digital signature) to load (credit) said value (sum) onto said smart card (see pp. 345 - 346.)
- a fund issuer computer (bank computer) arranged to receive said request message and to debit a consumer account with said smart card. (see p. 344);
- an authentication protocol arranged to receive said request and to authenticate said smart card whereby said smart card is authorized to load said value via handset (during "value transfer" phase Smart Card 1 checks authenticity of Smart Card 2, while a bank transfer requires submission of authenticating PIN number with transfer request). (see p. 346); and
- whereby said smart card may be authorized to load said value via said telephone handset. (supra, see p. 344).

Rankl also discloses a smart card loading system for loading value over a network onto a smart card (inter-sector electronic purse) said smart card loading system comprising (see pp. 336 – 337):

- a smart card (inter-sector electronic purse – see p. 336);

- a fund issuer computer (PPSAM) arranged to receive said request message (first purse instruction). (see p. 337);
- an authentication computer (PPSAM) arranged to receive said request message and to authenticate said smart card (authenticate signature S_1 – see p. 337);
- whereby said smart card may be authorized to load said value via said terminal. (“Again, this only relays the data to the card, this time with the instruction CREDIT IEP.” – see p. 337); and
- said message (cryptographic “signature S_2 ”) is serving as command input (relays data to the card with the instruction CREDIT IEP) to said smart card used to control operation of said smart card. (see pp. 336 – 337).

Rankl also discloses a wireless system (GSM Network) comprising:

- a mobile telephone handset (see mobile equipment, figure 13.2, p. 363) in communication with said telecommunications network;
- said handset including a subscriber identification module (see SIM, figure 13.2, p. 363) that is separate from said smart card and functions to allow a user to access telecommunications network. (“The SIM’s task is to permit network access only to authorized persons...” – see p. 364);
- a gateway computer (mobile services switching center) arranged to receive said message from said handset over said telecommunications network and retransmit (forwarding) said message, said gateway computer (mobile services switching center) being further arranged to

receive said message and to retransmit (forward) said message to said handset (mobile equipment). (see p. 363); and

- wherein said telecommunications network is a wireless network (see common air interface, see figure 13.2, p. 363).

Rankl does not teach wherein said response message is implemented as an alphanumeric message integrated within a Short Message Service (SMS) message of said telecommunications network.

Manterfield and Admission disclose a system wherein:

- information is transmitted as an alphanumeric message integrated within a Short Message Service (SMS) message. (see Manterfield – p. 141 or Admission – p. 9).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the smart-card loading system (Mondex system), as disclosed by Rankl, by incorporating the standard computer network and protocols for smart-card transactions (inter-sector electronic purse), as disclosed by Rankl, to allow the smart-card loading system to utilize the standard and conventional technologies and/or protocols of such systems.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have further modified the telephone smart-card loading system (Mondex system), as disclosed by Rankl, by incorporating wireless technology (GSM network), as disclosed by Rankl, since it has been held that making an old device or

movable without producing any new and unexpected result involves only routine skill in the art. *In re Lindberg*, 93 USPQ 23 (CCPA 1952).

It would have been obvious to one of ordinary skill at the time the invention was made to have modified Rankl to allow for any existing data transmission standard, such as alphanumeric messages transmitted via Short Message Service, as disclosed by Manterfield and Admission, to be utilized as that the inventor desired for transmission of the authentication response certification. *In re Kuhle*, 526 F.2d 553, 555, 188 USPQ 7, 9 (CCPA 1975).

Regarding Claim 4, Rankl discloses a smart card loading system wherein:

- said authentication computer (PPSAM) authenticates said smart card (inter-sector electronic purse) using a first cryptographic signature (signature S_1) and generates a second cryptographic signature (signature S_2) to authenticate a load response (CREDIT IEP), whereby said transaction is secure. (see p. 337).

Regarding Claim 5, Claim 5 recites similar limitations to Claims 1 and 4, in combination, and is therefore rejected using the same art and rationale as applied in the rejection of Claims 1 and 4, in combination. Claim 5 differs from Claims 1 and 4 in that Claim 5 is for a smart card loading system further comprising:

- the smart card is able to be removed from the handset to interface with a point-of-sale terminal through a contact interface with the point-of-sale terminal.

Rankl discloses a smart-card loading system further comprising:

- the smart card is able to be removed from the telephone handset to interface with a point-of sale terminal (trader terminal) (pp. 344 – 345); and
- the smart card is able to interface with a point-of sale terminal through a contact interface with the point-of-sale terminal. (pp. 21 – 23).

Regarding Claim 7, Rankl discloses a smart card loading system wherein:

- said authentication response certificate (cryptographic “signature S₂”) is implemented within a telecommunications network which serves as command input to the smart card (relays data to the card with the instruction CREDIT IEP) used to control operation of said smart card. (see pp. 336 – 337)

Rankl does not teach that such certificate is implemented as an alphanumeric message integrated within a Short Message Service (SMS) message.

Manterfield and Admission disclose a system wherein:

- information is transmitted as an alphanumeric message integrated within a Short Message Service (SMS) message. (see Manterfield – p. 141 or Admission – p. 9).

It would have been obvious to one of ordinary skill at the time the invention was made to have modified Rankl to allow for any existing data transmission standard, such as alphanumeric messages transmitted via Short Message Service, as disclosed by Manterfield and Admission, to be utilized as that the inventor desired for transmission of the authentication response certification. *In re Kuhle*, 526 F.2d 553, 555, 188 USPQ 7, 9 (CCPA 1975).

Regarding Claim 8, Rankl discloses a smart-card loading system:

- wherein in response to a successful load (confirm successful updating), said handset (terminal) is arranged to generate a transaction certificate (signature S_3) to be used for irrepudiation. (see p. 337).

Regarding Claim 24, Rankl discloses a method further comprising:

- removing said smart card from said handset ("telephone with built-in card reader" following value-loading). (see p. 344);
- placing said removed smart card ("the Smart Card") into association with a smart card reader ("the wallet"). (see p. 344); and
- using said smart card reader ("the wallet") to debit said smart card to perform a purchase. (see p. 344).

Regarding Claim 9, 11 - 12, 14 – 15, 23 and 25, Claims 9, 11 - 12, 14 – 15, 23 and 25 recite similar limitations as claimed in previously rejected claims, would have been obvious based upon previously rejected claims, or are otherwise disclosed by the prior art applied in previously rejected claims. Such claim limitations are therefore rejected using the same art and rationale as previously utilized.

(10) Response to Argument

For the ease of the Board, Examiner presents a mapping of the claim limitations of the Claim 1 to the applicable prior art references.

#	Claim 1	Rankl (NPL)	Manterfield(NPL) & Admissions
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1	A smart card loading system for loading value over a wireless telecommunications network onto a smart card, said smart card loading system comprising:	A smart card loading system (Mondex system) for loading value over a telecommunications network (telephone system) onto a smart card (Mondex smartcard) said smart card loading system (see pp. 342 - 344) comprising:	
2	a smart card;	a smart card (Mondex smartcard). (see pp. 342 - 344); a smart card (inter-sector electronic purse – see p. 336);	
3	a mobile telephone handset in communication with said telecommunications network,	a telephone handset (telephone with a built-in card reader) in communication with said telecommunications network (telephone system). (see p. 344); a mobile telephone handset (see mobile equipment, figure 13.2, p. 363) in communication with said telecommunications network;	
4	said handset including a subscriber identification module (SIM) that is separate from said smart card and functions to allow a user to access said telecommunications network,	said handset including a subscriber identification module (see SIM, figure 13.2, p. 363) that is separate from said smart card and functions to allow a user to access telecommunications network. ("The SIM's task is to permit network access only to authorized persons..." – see p. 364);	
5	a smart card reader for communicating with said smart card when said smart card is inserted in said handset,	a smart card reader (telephone with a built-in card reader) for communicating with a said smart card when said smart is inserted in said handset. (see p. 344);	
6	and an input interface for indicating a value to be loaded onto said smart card,	an input interface (see wallet, figure 12.16, p. 344) for indicating a value to be loaded onto said smart card (see p. 344);	
7	said handset being arranged to generate a request message to load said value onto said smart card and to receive a response message to load said value onto said smart card,	said handset being arranged to generate a request message to load said value onto said smart card and to receive a response message to load said value onto said smart card. (During value transfer phase, Smart Card 2 informs Smart Card 1 of the requested sum. The requested amount is debited on Smart Card 1 and is sent to Smart Card 2). (see p. 346);	

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8	wherein said response message is implemented as an alphanumeric message integrated within a Short Message Service (SMS) message of said telecommunications network,		information is transmitted as an alphanumeric message integrated within a Short Message Service (SMS) message. (see Manterfield – p. 141 or Admission – p. 9).
9	said alphanumeric message serving as a command input to said smart card used to control operation of said smart card;	said message (cryptographic “signature S2”) is serving as command input (relays data to the card with the instruction CREDIT IEP) to said smart card used to control operation of said smart card. (see pp. 336 – 337).	
10	a gateway computer arranged to receive said request message from said handset over said telecommunications network and to retransmit said request message, said gateway computer being further arranged to receive said response message and to retransmit said response message to said handset;	a gateway computer (mobile services switching center) arranged to receive said message from said handset over said telecommunications network and retransmit (forwarding) said message, said gateway computer (mobile services switching center) being further arranged to receive said message and to retransmit (forward) said message to said handset (mobile equipment). (see p. 363);	
11	a funds issuer computer arranged to receive said request message and to debit a consumer account associated with said smart card; and	a fund issuer computer (bank computer) arranged to receive said request message and to debit a consumer account with said smart card. (see p. 344); a fund issuer computer (PPSAM) arranged to receive said request message (first purse instruction). (see p. 337);	
12	an authentication computer arranged to receive said request message and to authenticate said smart card, said authentication computer being further arranged to generate said response message for transmission to said gateway computer,	an authentication protocol arranged to receive said request and to authenticate said smart card whereby said smart card is authorized to load said value via handset (during “value transfer” phase Smart Card 1 checks authenticity of Smart Card 2, while a bank transfer requires submission of authenticating PIN number with transfer request). (see p. 346); an authentication computer (PPSAM) arranged to receive said request message and to authenticate said smart card (authenticate signature S1 – see p. 337);	

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1 3	whereby said smart card is authorized to load said value via said handset.	whereby said smart card may be authorized to load said value via said telephone handset. (supra, see p. 344); whereby said smart card may be authorized to load said value via said terminal. ("Again, this only relays the data to the card, this time with the instruction CREDIT IEP." – see p. 337);	
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Smart Card and Subscriber Identification Module (SIM)

Appellant asserts that Claim 1 requires "a mobile telephone handset in communication with said telecommunications network, said handset including a subscriber identification module (SIM) that is separate from said smart card and functions to allow a user to access said telecommunications network." Appellant argues that the asserted prior art does not disclose a mobile telephone handset that has both SIM and a smart card.

Examiner asserts that Appellant is engaging in piecemeal analysis of the references and that "one cannot show non-obviousness by attacking references individually where, as here, the rejections are based on combinations of references." *In re Keller, Terry, and Davies*, 208 USPQ 871, 882 (CCPA 1981). In the instant case, applicant refutes each prior art reference individually, rather than viewing them in combination, in light of the totality of their combined teachings.

Appellant acknowledges that the asserted prior art, Rankl, discloses a handset in communication with said telecommunications network, said handset containing a smart card.

In fact, Rankl states:

An additional device in this payment system is a telephone with a built-in card reader. It allows money to be transferred over the line during the call. The typical application is the ordering of goods from a mail-order catalogue. Payment is carried out when the order is placed. This technique naturally also allows the loading of the purse over the phone, or a transaction between two cardholders. When loading the card from a bank account, a four-figure PIN must, of course, be entered at the same time for security reasons. (emphasis added - see p. 344).

Appellant argues that this disclosure is inadequate as it fails to disclose a mobile handset or a SIM in the mobile handset. As an aside, Rankl does not state that the handset is not mobile or merely a "conventional telephone" as asserted by the Appellant. Furthermore, a "conventional telephone" may be considered a mobile telephone handset in the broadest interpretation of the claim terminology as a conventional telephone can be unplugged, transported and re-plugged into a telecommunications network. This would be in contrast to non-mobile telephones which are permanently affixed to one location (i.e. pay phones).

Appellant acknowledges that the prior art, Rankl, discloses a mobile handset in communication with said telecommunications network, said handset including a subscriber identification module (SIM) that functions to allow a user to access said telecommunications network.

In fact, Rankl states:

GSM designates the mobile phone as MS (mobile station), consisting of the physically and logically distinct parts ME (mobile equipment) and SIM (subscriber identification module). The ME is the station's radio and encryption section, and SIM is another name for the smart card specific to GSM. Together they form the functional mobile phone. (see p. 363).

Appellant argues that this disclosure is inadequate as it fails to disclose an additional smart card, in addition to the SIM, functioning in the mobile handset.

Examiner asserts that it would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified Rankl by including or incorporating other elements as taught by Rankl since the claimed invention is merely a combination of old elements, and in the combination each element merely would have performed the same function as it did separately, and one of ordinary skill in the art at the time the invention was made would have recognized that the results of the combination were predictable.

For example, Rankl discloses using a first telephone handset (a telephone with a built-in card readers) in order to load a funds onto a smart card. Rankl also discloses a second telephone handset (mobile equipment) which utilizes a SIM to allow the telephone handset to connect to the telecommunications network. Examiner asserts that in order to make the first telephone handset more mobile, it would have been obvious to incorporate old and well known mobile telephone technology such as mobile equipment and a SIM. This resulting combination would be a mobile telephone handset with a SIM (to allow connection to telecommunication network) and a smart card (to contain funds). In this combination there would be two smart cards, the smart card being separate from the SIM.

Combination of Three Separate Systems

Appellant asserts that the rejection contained in the previous Office Action is based on combining three separate smart card technologies which are disclosed in Rankl. Appellant "disagrees with the basic premise of the final action, namely that it would be obvious to simply combine three separate smart card technologies in order to

arrive at the invention." Appellant then proceeds to summarize the three smart card technologies discussed in Rankl and points out the claim elements missing from each one (although, the missing elements are disclosed by the other smart card technologies).

First, Examiner is at a loss. Appellant does not explain why it would not have been obvious to combine the three smart card technologies. In fact, Appellant does not even directly state that it would not have been obvious. Appellant states that he disagrees with the "premise of the final action" and "it cannot be assumed that one of skill in the art would have arrived at the present invention." Such statements are less than a direct refutation of the Examiner's assertion of obviousness.

Second, Rankl is a textbook titled "Smart Card Handbook" and discusses established smart card technologies. Based upon the copyright date of 1997, Examiner contends that the smart card technologies discussed and their component elements are old and established in the field of smart card technologies. Examiner, therefore, asserts that it would have been obvious as the claimed invention is merely a combination of old elements, and in the combination each element merely would have performed the same function as it did separately, and one of ordinary skill in the art at the time the invention was made would have recognized that the results of the combination were predictable.

SMS Text Message

Appellant asserts that the claimed invention requires "that a response message or response certificate is implemented as an alphanumeric message integrated within a standard SMS message, and that this alphanumeric message is used to control

operation of the smart card in the mobile handset.” Appellant states that such claim limitation would not have been obvious.

Rankl discloses that commands are sent through the telecommunication network to control operation of the smart card in the handset, such as controlling the loading of funds onto the smart card. (see pp. 336 – 337). The commands sent are alphanumeric messages (derived from a character set comprising letters and numbers), such as CREDIT IEP. (see p. 337).

Manterfield and Admissions disclose that SMS messages are a standard utilized to send alphanumeric messages. Appellant even concedes as much in his Appeal Brief. (see pp. 10 – 11).

Examiner asserts that it would have been obvious to have modified Rankl’s transmission of alphanumeric command messages to incorporate an SMS message, as disclosed by Manterfield and Admissions, as SMS messages are generally utilized to transmit alphanumeric information.

Part of Appellant’s argument is that SMS “was designed to send messages to people, one of skill in the art would not have made the mental leap to think of using to send a message to a microprocessor in a mobile telephone.”

First, SMS messages must inherently be received by a microprocessor and processed into some format that can be perceived by a human. To the best of the Examiner’s knowledge, people cannot naturally detect SMS messages without a technological aid to receive and convert the message into some readable format.

Second, Appellant contradicts himself in the very next sentence in which he states "[w]hile it might have been obvious at the time of the invention to send an alphanumeric SMS text message to a teenager saying "HOW R U"...". Based upon the Appellant's comments, it would have been obvious to have sent an alphanumeric SMS text message to some type of microprocessor device. Based upon the Appellant's example, Examiner assumes that said device is a mobile telephone handset which is a conventional device by which teenagers receive text messages.

Second Application

Appellant asserts that Claim 12 contains claim limitations of "opening a second application on said smart card capable of funding said stored value application" and "loading said value onto said stored value application of said smart card from said second application." Appellant interprets such claim limitations as meaning that the "value is loaded onto the smart card from a second application on the smart card itself, rather than from a source outside the smart card."

First, Examiner refutes such an interpretation as the original specification did not articulate a definition of claim terminology that required such a claim construction. As such, the broadest definition for claim terminology was applied as to provide the "broadest reasonable interpretation consistent with the specification during the examination of a patent application since the applicant may then amend his claims." See *In re Prater and Wei*, 162 USPQ 541, 550 (CCPA 1969).

Second, Rankl states:

In this example, an IEP electronic purse is loaded via an LDA terminal by the background system with the PPSAM security module. The user first inserts the card in the terminal, which then resets itself. In the ATR, the IEP notifies the terminal of various global parameters for the subsequent communication process. Then the terminal selects the purse DF on the card. Once this is successfully achieved, the user pays into the terminal the amount to be credited in the acceptable currency. This data is then sent to the PPSAM together with the first purse instruction. The PPSAM checks the specified currency unit and the amount still possible to load. In response, it returns three data elements to the terminal... (emphasis added – see p. 337)

Examiner asserts that Rankl discloses opening a second application (file containing global parameters for the subsequent communication process) capable of funding said stored-value application (the purse, itself). This second application makes the smart card capable of having funds loaded upon it. The funds are loaded from the second application or, more precisely, the global parameters contained within the second application.

(11) Related Proceeding(s) Appendix

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

/Jason M Borlinghaus/

Examiner, Art Unit 3693

September 15, 2008

Conferees:

/J. A. K./

Supervisory Patent Examiner, Art Unit 3693

Vincent Millin /VM/

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